



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D3179-041 Job Sheet 189924



Part No: D3179-041

Job Qty: 6 pcs

Part Name: Litter Tie Down (Non-Locking)



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 1/31/19

Job Tracking No:

Due Date: 2/27/19

Created By: Dara Macdonald

Type: Stock

Description:

Note: DWG REV E IPP A1 03.01.09 Added Acid etch end alodine RF IPP Rev:B Added Powder Coat 07-07-04 JLM
IPP REV:C AS PER REV D JLM 13-05-24 VERIFIED BY:DD IPP Rev:C 08-12-10 add part list DD verified
by:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Lead Time	Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier			
100	Bandsaw - 1	6 pcs	2/27/19	2/27/19	0.00	0.50	Bandsaw - 1			BMA 19/03/19
110	HAAS 4 Axis - B4B	6 pcs	2/27/19	2/27/19	0.37	10.91	HAAS - 1 - B4B			mm L 19/03/19
							HAAS - 2 - B4B			
							HAAS - 3 - B4B			
							HAAS - 4 - B4B			
120	QC 2	6 pcs	2/27/19	2/27/19	0.00	0.00	QC 2 - 1			
							QC 2 - 12			
							QC 2 - 14			
							QC 2 - 17			
							QC 2 - 19			
							QC 2 - 2			
							QC 2 - 20			
							QC 2 - 22			
							QC 2 - 23			
							QC 2 - 25			
							QC 2 - 32			
							QC 2 - 33			
							QC 2 - 35			
							QC 2 - 38			
QC 2 - 39										
QC 2 - 4										
QC 2 - 40										
QC 2 - 44										
QC 2 - 45										
QC 2 - 48										
QC 2 - 49		mm L 19/03/19								
QC 2 - 50										
QC 2 - 51										



Container No: S161278



Part: D3179 - 041
Job No: 189924
Serial No/Batch: S161278

Revision:
Inspector:
Exp Date:
Instructions: Various STC's

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K64 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Date: 03/11/19



Container No: S161278



Part: D3179 - 041

Job No: 189924

Serial No/Batch: S161278

Revision:

Inspector:

Exp Date:

Instructions: Various STC's

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Date: 03/11/19

				QC 2 - 52	
				QC 2 - 54	
				QC 2 - 56	
				QC 2 - 57	
				QC 2 - 62	
				QC 2 - 63	
				QC 2 - 8	
130	QC 8	6	2/27/19	0.00 0.00	QC 8 - 12
	pcs				QC 8 - 14
					QC 8 - 17
					QC 8 - 20
					QC 8 - 25
					QC 8 - 3
					QC 8 - 32
					QC 8 - 33
					QC 8 - 35
					QC 8 - 38
					QC 8 - 39
					QC 8 - 4
					QC 8 - 44
					QC 8 - 45
					QC 8 - 49
					QC 8 - 58
					QC 8 - 8
					QC 8 - 9
					QC 8 - 68
					QC 8 - 67
140	Handfinish - 1-1 Chemical-B4B	6	2/27/19	0.00 0.49	Handfinish - 1 - 1 - B4B
	pcs				Handfinish - 1 - 2 - B4B
					Handfinish - 1 - 3 - B4B
					Handfinish - 1 - 4 - B4B
					Handfinish - 1 - 5 - B4B
					Handfinish - 1 - 6 - B4B
					Handfinish - 1 - 7 - B4B
					Handfinish - 1 - 8 - B4B
					Handfinish - 1 - 9 - B4B
					Handfinish - 1 - 10 - B4B
					Handfinish - 1 - 11 - B4B
					Handfinish - 1 - 12 - B4B
					Handfinish - 1 - 13 - B4B
					Handfinish - 1 - 14 - B4B
					Handfinish - 1 - 15 - B4B
					Handfinish - 1 - 16 - B4B
					Handfinish - 1 - 17 - B4B
					Handfinish - 1 - 18 -

mlh 19/03/19

BEB 19-03-20

				B4B	
				Handfinish - 1 - 19 - B4B	
				Handfinish - 1 - 20 - B4B	
				Handfinish - 1 - 21 - B4B	
				Handfinish - 1 - 22 - B4B	
150	QC 7	6 pcs	2/27/19	0.00 0.00	QC 7 - 10
					QC 7 - 13
					QC 7 - 14
					QC 7 - 15
					QC 7 - 17
					QC 7 - 18
					QC 7 - 19
					QC 7 - 2
					QC 7 - 28
					QC 7 - 3
					QC 7 - 30
					QC 7 - 34
					QC 7 - 36
					QC 7 - 37
					QC 7 - 38
					QC 7 - 41
					QC 7 - 47
					QC 7 - 48
					QC 7 - 51
					QC 7 - 58
					QC 7 - 59
					QC 7 - 6
					QC 7 - 60
					QC 7 - 9
					QC 7 - 68
					QC 7 - 50
					QC 7 - 67
160	Powdercoat - 1 White Gl(A)- B4B	6 pcs	2/27/19	0.00 0.36	Powdercoat - 1 - B4B
					Powdercoat - 2 - B4B
					Powdercoat - 3 - B4B
					Powdercoat - 4 - B4B
170	QC 3	6 pcs	2/27/19	0.00 0.00	QC 3 - 10
					QC 3 - 13
					QC 3 - 15
					QC 3 - 17
					QC 3 - 18
					QC 3 - 2
					QC 3 - 26
					QC 3 - 28
					QC 3 - 3
					QC 3 - 30
					QC 3 - 34
					QC 3 - 36
					QC 3 - 38
					QC 3 - 41
					QC 3 - 51
					QC 3 - 58
					QC 3 - 59
					QC 3 - 6
					QC 3 - 68
					QC 3 - 9

BK 19-03-20.

BK 19-03-21

START: 7:40 O.V.T. 3:20 FINISH: 8:10.

DAS
36
9-89

180	Small Fab - 2 - B4B	6 pcs	2/27/19	0.00	0.89	Small Fab - 1 - B4B Small Fab - 2 - B4B Small Fab - 3 - B4B Small Fab - 4 - B4B Small Fab - 5 - B4B Small Fab - 6 - B4B Small Fab - 7 - B4B	DAS 36 9-89
190	QC 5	6 pcs	2/27/19	0.00	0.00	QC 5 - 10 QC 5 - 12 QC 5 - 17 QC 5 - 18 QC 5 - 19 QC 5 - 22 QC 5 - 24 QC 5 - 3 QC 5 - 38 QC 5 - 42 QC 5 - 43 QC 5 - 49 QC 5 - 51 QC 5 - 58 QC 5 - 68 QC 5 - 9 QC 5 - 50 QC 5 - 30	DAS MAR 21 2019 68 9-89
200	Packaging 3-1 - Stock - B4B	6 pcs	2/27/19	0.00	0.00	Packaging 3 - 1 - B4B Packaging 3 - 2 - B4B Packaging 3 - 3 - B4B Packaging 3 - 4 - B4B Packaging 3 - 5 - B4B Packaging 3 - 6 - B4B Packaging 3 - 7 - B4B Packaging 3 - 8 - B4B Packaging 3 - 9 - B4B Packaging 3 - 10 - B4B Packaging 3 - 11 - B4B Packaging 3 - 12 - B4B Packaging 3 - 13 - B4B Packaging 3 - 14 - B4B Packaging 3 - 15 - B4B Packaging 3 - 16 - B4B Packaging 3 - 17 - B4B Packaging 3 - 18 - B4B Packaging 3 - 19 - B4B Packaging 3 - 20 - B4B Packaging 3 - 21 - B4B Packaging 3 - 22 - B4B Packaging 3 - 23 - B4B Packaging 3 - 24 - B4B Packaging 3 - 25 - B4B Packaging 3 - 26 - B4B Packaging 3 - 27 - B4B Packaging 3 - 28 - B4B Packaging 3 - 29 - B4B Packaging 3 - 30 - B4B Packaging 3 - 31 - B4B Packaging 3 - 32 - B4B Packaging 3 - 33 - B4B Packaging 3 - 34 - B4B	8225 MAR 21 2019

210 QC 21 - SA		6	2/27/19	0.00 0.00	Packaging 3 - 35 - B4B	
		pcs			QC 21 - SA - 21	DAG
					QC 21 - SA - 70	MAR 21 2019 21

Part Op 100 - (Bandsaw) Cut blanks: 12.150" long

Descriptions: 110 - (HAAS CNC Vertical Machine) 1- Mill as per Folio FA297 Rev: AA & Dwg D3179-1 Rev: E

120 - (QC2- Inspect parts off machine FAI/FAIB)

130 - (QC8- Inspect parts - second check)

140 - (Chemical Conversion Coat per QSI005 4.1)

150 - (QC7-Inspect Chemical Conversion Coat)

160 - (White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum) START TIME: _____

170 - (QC3- Inspect Part Finish)

180 - (Small Fab) Assemble as per Dwg D3179 → Drill Hole .246 2x remove paint.

190 - (QC5- Inspect part completeness to step on W/O)

200 - (Identify as per dwg & Stock Location: _____)

210 - (QC21- Final Inspection - Work Order Release)

DAS
22
9-89
19.03.21

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D6201	T Extrusion	6.0750 ft (1.0125 ea)	100-Bandsaw - 1	5 45 7836
D2372	Quick Release	12 pcs (2 ea)	180-Small Fab - 2 - B4B	5/28912(52) 5/15415
D2444	Pip Pin Assembly	6 pcs (1 ea)	180-Small Fab - 2 - B4B	5/27700 5x 5/22507
MS21042L3	Nut	6 Ea (1 ea)	180-Small Fab - 2 - B4B	5/157462
MS27039-1-13	Screw	6 Ea (1 ea)	180-Small Fab - 2 - B4B	5071833
NAS1149D0332J	Washer	18 Ea (3 ea)	180-Small Fab - 2 - B4B	5/144850

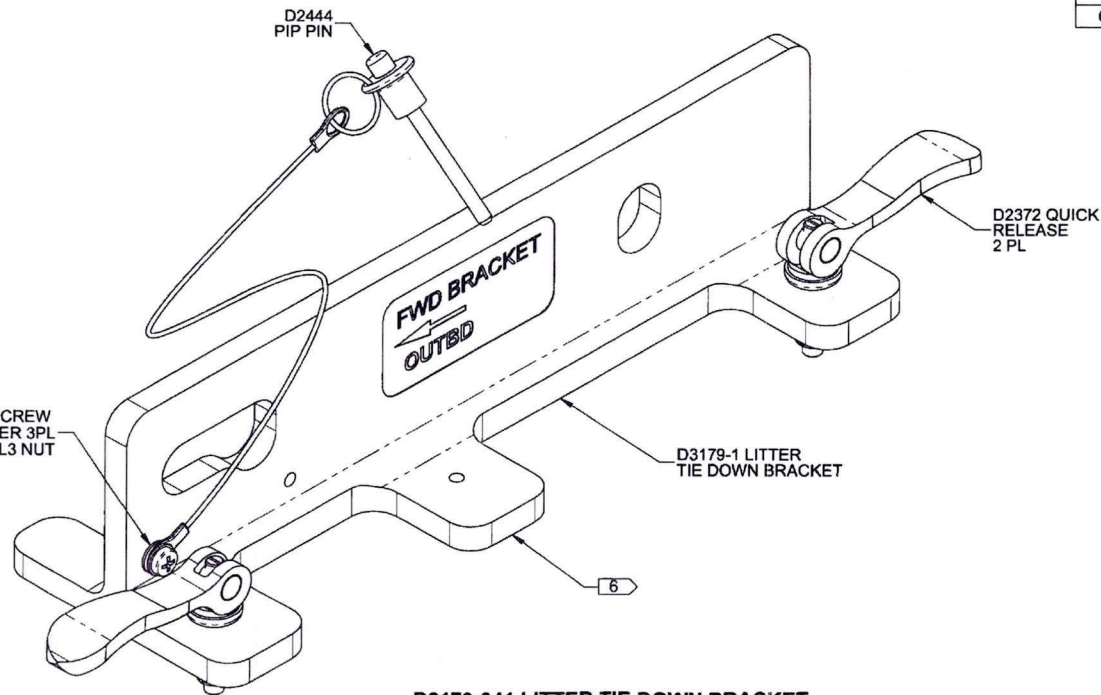
Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Bandsaw - 1	D6201	6	5	0
180-Small Fab - 2 - B4B	D2372	12	5	0
	D2444	6	11	0
	MS21042L3	6	2,821	0
	MS27039-1-13	6	411	0
	NAS1149D0332J	18	2,734	0

Part Specifications

Specifications could not be found.

ITEM	QTY -041	P/N	DESCRIPTION
	X	D3179-041	LITTER TIE DOWN BRACKET
1	2	D2372	QUICK RELEASE
2	1	D2444	PIP PIN
3	1	D3179-1	LITTER TIE DOWN BRACKET
4	1	MS21042L3	NUT, SELF-LOCKING
5	1	MS27039-1-13	SCREW, PAN-HEAD
6	3	NAS1149D0332J	WASHER (AN960JD10L)



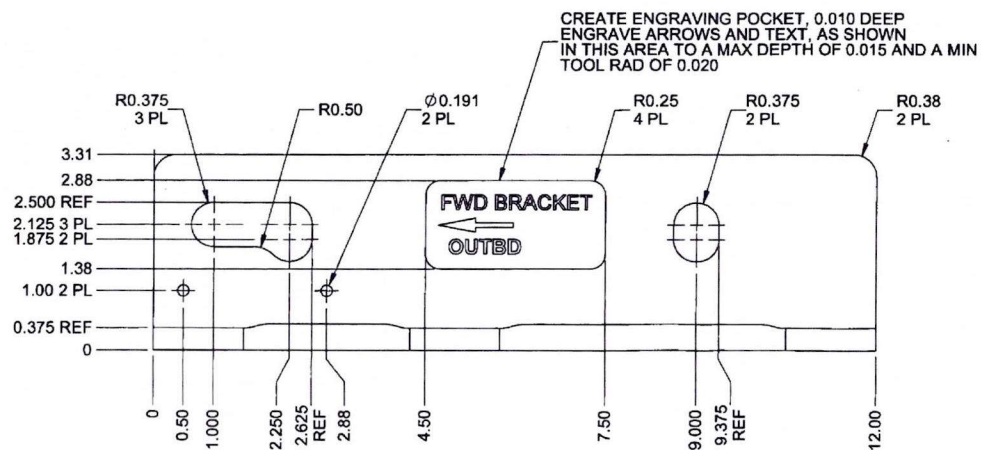
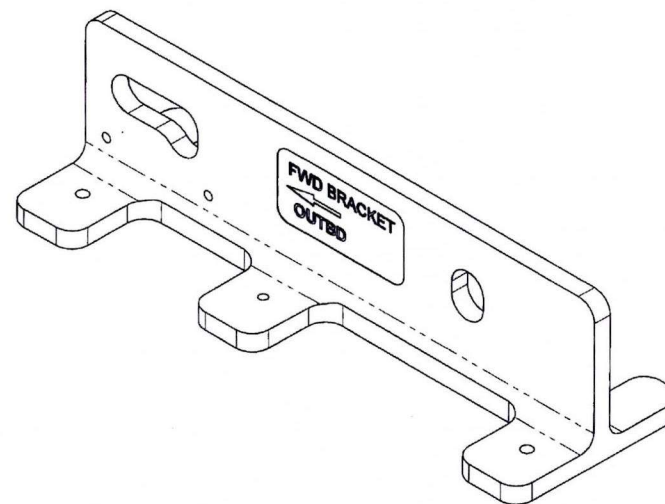
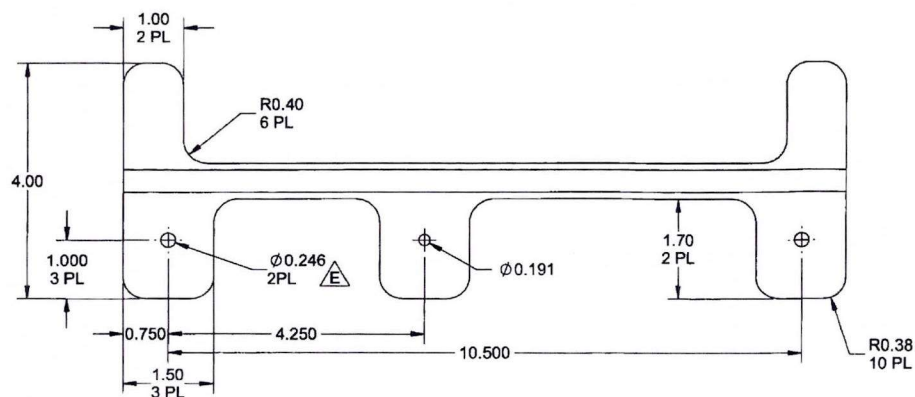
D3179-041 LITTER TIE DOWN BRACKET

- NOTES:**
- 1) MATERIAL: N/A
 - 2) FINISH: N/A
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3179-041" AND B/N "BXXXXXX" ON BOTTOM FACE PER QSI 044 6.1
 - 7) WEIGHT: 2.79 lbs

E	Ø0.246 WAS Ø0.242 (ZN C7-2). REASON: PAR15-415	MB	15.11.12
D	POSITION AND SHAPE OF LITTER CAPTURE SLOTS CHANGED (ZN B4-2, B8-2, C7-2). ADD ENGRAVING NOTE (ZN C4-2). REF CIR13-15	DB	13.03.22
C	ADD D3179-041 & PARTS LIST (ZN B6-1, D2-1). D3179-1 WAS D3179 (ZN A5-2); REMOVE ENGRAVE P/N	RF	08.11.07
B	REFORMAT DRAWING, FINISH WAS ANODIZE	DC	07.06.06
A	NEW ISSUE	RF	02.12.09
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	MB		
CHECKED	AJS	DRAWING NO.	REV. E
MFG. APPR.	JLM	D3179	SHEET 1 OF 2
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	LITTER TIE DOWN BRACKET	NTS
DATE	15.11.12	COPYRIGHT © 1995 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	

RELEASED
2016-04-18
EEN 16-562

APPROVED



D3179-1 TIE DOWN BRACKET

NOTES:

- 1) MATERIAL: MAKE FROM D6201-012 EXTRUSION (6061-T6/T6511 PER QQ-A-200/8)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 POWDER COAT "WHITE" (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 1.90 lbs

RELEASED
2016-04-18

APPROVED

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	MB		
CHECKED	AJS	DRAWING NO.	REV. E
MFG. APPR.	JLM	D3179	SHEET 2 OF 2
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	LITTER TIE DOWN BRACKET	NTS
DATE	15.11.12	COPYRIGHT © 1995 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

DART AEROSPACE LTD		Work Order:	
Description: Fwd Litter Tie Down Bracket		Part Number:	D3179-1
Inspection Dwg: D3179	Rev: E	Page 1 of 1	

INSPECTION SHEET

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
1.00	+/-0.030	1.00	/		vern	mm L-05
R0.40	+/-0.030	.400	/		RG	
R0.38	+/-0.030	.38	/		"	
1.70	+/-0.030	1.700	/		vern	mm L-05
Ø0.191	+0.005/-0.001	.191	/		"	
10.500	+/-0.010	10.500	/		tape	
4.250	+/-0.010	4.250	/		vern	mm L-05
Ø0.246	+0.005/-0.001	.246	/			
1.50	+/-0.030	1.500	/			
0.750	+/-0.010	.750	/			
1.000	+/-0.010	1.000	/			
4.00	+/-0.030	4.000	/			
1.00	+/-0.030	1.00	/			
1.38	+/-0.030	1.380	/			
1.875	+/-0.010	1.875	/			
2.125	+/-0.010	2.125	/			
2.88	+/-0.030	2.88	/			
3.31	+/-0.030	3.31	/			
R0.375	+/-0.010	.375	/		RG	
R0.50	+/-0.030	.500	/		"	
Ø0.191	+0.005/-0.001	.191	/		vern	mm L-05
R0.25	+/-0.030	.25	/		RG	
R0.375	+/-0.010	.375	/		"	
R0.38	+/-0.030	.38	/		"	
12.00	+/-0.030	12.00	/		tape	
9.000	+/-0.010	9.00	/			
7.50	+/-0.030	7.500	/		vern	mm L-05
4.50	+/-0.030	4.500	/			
2.88	+/-0.030	2.88	/			
2.250	+/-0.010	2.250	/			
1.000	+/-0.010	1.00	/		Heig C	31006
0.50	+/-0.030	.500	/		"	

Measured by: mm L	Checked by: [Signature]	QC Inspector:
Date: 19/03/19	Date: 19/03/19	Date:

Engineering Approval: (If necessary)	Date:
--	--------------

Rev	Date	Change	Revised by	Approved
A	09.04.05	New Issue P/O D3179-041	KJ/DD	
B	12.10.04	Dimension 0.750 was 1.750	KJ	
C	13.05.27	Dimensions revised per Dwg Rev D	KJ	
D	16.06.08	Dimensions revised per Dwg Rev E	KJ	
E	17.02.16	Dimensions rearranged	KJ	[Signature]